IN THE CLAIMS

The following is a complete listing of the claims, and replaces all earlier versions and listings.

1. (Canceled)

2. (Currently Amended) A method ~~according to claim 1 wherein the number of retrieved bits is~~ of compressing a current image of a sequence of images, the method comprising the steps of:

(a) transforming the current image with a predetermined transform to provide a set of transform coefficients;

(b) retrieving, for at least one transform coefficient of the current image, two bits only of a corresponding transform coefficient of a previously compressed image of the sequence, wherein the corresponding transform coefficient is truncated at a truncation bitplane and the retrieved bits comprise the least significant bit of the truncated corresponding transform coefficient;

(c) setting the at least one transform coefficient of the current image to a new value that is a function of the retrieved bits;

(d) storing the two bits of the at least one transform coefficient for use in compressing one or more subsequent images of the sequence; and

(e) coding the transform coefficients of the current image to provide a compressed bitstream of the current image.

3. (Currently Amended) A method according to claim 2, wherein ~~the step of~~ said setting

step ~~the transform coefficient of the current image to a new value~~ is only performed if a predetermined criterion is satisfied, the predetermined criterion depending on the truncation bitplane of the corresponding transform coefficient of the previous image.

4. (Currently Amended) A method according to claim 3, wherein the predetermined criterion is:

$$(Q[|C^n|,L(n-1)] == 0 \;\&\&\; Q[|C^n|,L(n-1)+1] != 0 \;\&\&\; c_{L(n-1)}{}^{n-1}==1) \;||$$

$$Q[|C^n|,L(n-1)] > 0,$$

where C^n is the transform coefficient of the current image n, $L(n-1)$ is the truncation bitplane of the previous image $(n-1)$, and $c_{L(n-1)}{}^{n-1}$ is the least significant bit of the retrieved bits.

5. (Currently Amended) A method according to claim 4, wherein the predetermined criterion further comprises one or more conditions selected from the set ~~consisting of~~ comprising:

$$Q[|C^n|,L(n-1)] == 0\,;$$

$$Q[|C^n|,L(n-1)] \neq \sum_{j=1}^{L} 2^{-j}\,;\text{ and}$$

$$L(n-1)==L(n-2).$$

6. (Currently Amended) A method according to claim 2, wherein the new value of the at least one transform coefficient is set by:

$$|C^n|=|C^n| + (c_{L(n-1)}{}^{n} - c_{L(n-1)}{}^{n-1})*(2*|\, c_{L(n-1)-1}{}^{n} - c_{L(n-1)-1}{}^{n-1}|-1)*2^{-L(n-1)}.$$

7. (Currently Amended) A method according to claim [[1]] 2, wherein the predetermined transform is a discrete wavelet transform (DWT).

8. (Currently Amended) A method according to claim [[1]] 2, wherein each image of the sequence is compressed substantially [[to]] at the same predetermined rate.

9. (Currently Amended) A method according to claim [[1]] 2, wherein the compressed bitstream is substantially conformant with Motion JPEG2000.

10. (Currently Amended) A method according to claim 7, wherein the at least one transform coefficient is a member of a subset of transform coefficients, wherein the subset is selected from the group ~~consisting of~~ comprising:

(i) all transform coefficients of the current image;

(ii) all transform coefficients of predetermined Motion JPEG2000 code blocks;

(iii) all transform coefficients in the level 1 subband; and

(iv) all transform coefficients in the level 1, 2, and 3 subbands.

11. (Currently Amended) A method according to claim [[1]] 2, wherein, [[in]] said storing step[[,]] includes storing the bits of the transform coefficients of the current image ~~are stored~~ in a compressed form.

12. (Currently Amended) A method according to claim [[1]] 2, wherein the truncation bitplane is a function of sensor noise.

13. (Currently Amended) A method according to claim [[1]] 2, wherein each image of the sequence is decompressible independently of the other images.

14. (Currently Amended) A method ~~according to claim 1 wherein~~ of compressing a current image of a sequence of images, the method comprising the steps of:

(a) transforming the current image with a predetermined transform to provide a set of transform coefficients;

(b) retrieving, for at least one transform coefficient of the current image, only one bit ~~is retrieved in said retrieving step~~ of a corresponding transform coefficient of a previously compressed image of the sequence, wherein the corresponding transform coefficient is truncated at a truncation bitplane and the retrieved bit comprises the least significant bit of the truncated corresponding transform coefficient;

(c) setting the at least one transform coefficient of the current image to a new value that is a function of the retrieved bit;

(d) storing the bit of the at least one transform coefficient for use in compressing one or more subsequent images of the sequence; and

(e) coding the transform coefficients of the current image to provide a compressed bitstream of the current image.

15. (Currently Amended) A method according to claim 14, wherein [[the]] said setting step comprises setting bit L(n-1) of the at least one transform coefficient of the current image to the value of the retrieved bit if

$2^{L(n-1)} <= |C| < 2^{(L(n-1)+1)}$ and the retrieved bit is zero, where

L(n-1) is the truncation bitplane of the previously compressed image and C is the at least one transform coefficient.

16. (Currently Amended) A method according to claim 15, wherein a significance of each coefficient is stored for bitplane L between the coding of each frame in the sequence and is used to determine if $|P| < 2^{\wedge}L$.

17. (Currently Amended) A method according to claim 16, wherein the significances are compressed before storage.

18. (Currently Amended) A method according to claim [[1]] 2, wherein the set of transform coefficients is arranged in a set of blocks and the method further comprises the steps of:

determining truncation points of the blocks in the compressed bitstream of the current image, wherein a truncation point of at least one of the blocks of the current image is selected according to the current image and a truncation point selected for a corresponding block of one or more previous images; [[,]] and

truncating the compressed bitstream of the current image at the determined truncation points to provide a further compressed representation of the current image.

19. (Currently Amended) A method according to claim 18, wherein associated with each block of the current image is a set of rate and distortion points, and wherein [[the]] said step of determining truncation points comprises the sub-step of:

determining the truncation points of the blocks of the current image that minimize a function of the distortion points while a function of the rate points satisfies a rate constraint.

20. (Currently Amended) A method according to claim 19, wherein [[the]] said step of

determining truncation points further comprises the sub-step of:

weighting, for each block of the current image, a distortion value corresponding to the truncation point of the corresponding block in a previous image.

21. (Currently Amended) A method according to claim 19, wherein [[the]] said step of determining truncation points furthre comprises the sub-step of:

weighting, for each block of the current image, a rate value corresponding to the truncation point of the corresponding block in a previous image.

22. (Currently Amended) A method according to claim [[1]] 2, wherein the method further comprises the step of [[:]] determining regions of a current image with respect to a previous image that represent smooth areas near moving edges,

and ~~wherein, in the~~ said coding step[[,]] includes encoding the transform coefficients representative of the determined regions of the current image ~~are encoded~~ to greater accuracy than the remaining transform coefficients.

23. (Currently Amended) A method according to claim 22, wherein [[the]] said determining ~~determination~~ step of determining regions of the current image representing smooth areas near moving edges is performed in the spatial domain.

24. (Currently Amended) A method according to claim 23, wherein [[the]] said determining ~~determination~~ step comprises the following sub-steps [[of]]:

a first filtering sub-step for filtering a moving edge map of corresponding blocks of the current and previous images, wherein the first filtering sub-step is of a large spatial extent;

a second filtering sub-step for filtering a moving edge map of corresponding blocks of the current and previous images, wherein the second filtering sub-step is of a small spatial extent; and

a determination step for determining a ratio of the first filtered moving edge map and the second filtered moving edge map.

25. (Currently Amended) A method according to claim 22, wherein the predetermined transform is a discrete wavelet transform (DWT) and ~~the determination~~ said determining step of determining regions of the current image representative of smooth areas near moving edges is performed in the wavelet domain.

26. (Currently Amended) A method according to claim 25, wherein ~~the determination~~ said determining step comprises the sub-step of generating a plurality of masks for respective blocks of the DWT coefficients of the current image for excluding predominantly similar DWT coefficients in a block from the bitstream.

27. (Currently Amended) A method according to claim 18, further comprising the step of[[:]] determining regions of a current image with respect to a previous image that represent smooth areas near moving edges,

[[and]] wherein~~, in the~~ said coding step[[,]] includes encoding the transform coefficients representative of the determined regions of the current image ~~are encoded~~ to greater accuracy than the remaining transform coefficients.

28. (Canceled)

29. (Currently Amended) A method ~~according to claim 28 wherein~~ of decompressing a compressed bitstream representative of a sequence of images, comprising the steps of:

decoding the compressed bitstream to provide transform coefficients of a current image in the sequence;

retrieving, for at least one transform coefficient of the current image, only one bit ~~is retrieved in said retrieving step~~ of a corresponding transform coefficient of a previously decompressed image in the sequence;

setting the at least one transform coefficient of the current image to a new value that is a function of the retrieved bit; and

inverse transforming the current image with a predetermined inverse transform.

30. (Currently Amended) A method ~~according to claim 28 wherein~~ of decompressing a compressed bitstream representative of a sequence of images, comprising the steps of:

decoding the compressed bitstream to provide transform coefficients of a current image in the sequence;

retrieving, for at least one transform coefficient of the current image, two bits ~~are retrieved in said retrieving step~~ of a corresponding transform coefficient of a previously decompressed image in the sequence;

setting the at least one transform coefficient of the current image to a new value that is a function of the retrieved bits; and

inverse transforming the current image with a predetermined inverse transform.

31. (Currently Amended) An apparatus for compressing a current image of a sequence of images, comprising:

(a) means adapted to transform the current image with a predetermined transform to provide a set of transform coefficients;

(b) means adapted to retrieve, for at least one transform coefficient of the current image, ~~one or more, but not all~~ two bits only of a corresponding transform coefficient of a previously compressed image of the sequence, wherein the corresponding transform coefficient is truncated at a truncation bitplane and the retrieved bits comprise the least significant bit of the truncated corresponding transform coefficient;

(c) means adapted to set the at least one transform coefficient of the current image to a new value that is a function of the retrieved bits;

(d) means adapted to store ~~one or more, but not all~~ the two bits of the at least one transform coefficient for use in compressing one or more subsequent images of the sequence; and

(e) means adapted to code the transform coefficients of the current image to provide a compressed bitstream of the current image.

32. (Currently Amended) A computer program product comprising machine-readable program code recorded on a machine-readable recording medium, for controlling the operation of a data processing apparatus on which the program code executes to perform a method of compressing a current image of a sequence of images, the method comprising the steps of:

(a) transforming the current image with a predetermined transform to provide a set of transform coefficients;

(b) retrieving, for at least one transform coefficient of the current image, ~~one or more, but not all~~ two bits only of a corresponding transform coefficient of a previously compressed image of the sequence, wherein the corresponding transform coefficient is truncated at a truncation bitplane and the retrieved bits comprise the least significant bit of the truncated corresponding transform coefficient;

(c) setting the at least one transform coefficient of the current image to a new value that is a function of the retrieved bits;

(d) storing ~~one or more, but not all~~ the two bits of the at least one transform coefficient for use in compressing one or more subsequent images of the sequence; and

(e) coding the transform coefficients of the current image to provide a compressed bitstream of the current image.

33. (Currently Amended) A ~~compressed sequence of images wherein at least one image is compressed using the methods of~~ computer program stored on a computer-readable medium which, when executed, performs a method for compressing at least one image according to any one of claims [[1]] 2 to 27.